

We claim:

1. A probing system for testing a device comprising:
a probe comprising a semiconductor die on which probe tips are arranged in a pattern that matches a pattern of terminals on the device; and
a tester electrically connected to the probe tips.
2. The system of claim 1, wherein the device comprises a semiconductor material that is substantially the same as material in the semiconductor die.
3. The system of claim 1 further comprising a probe card including a receptacle in which the probe is detachably mounted, wherein the tester makes electrical connections to the probe tips through the probe card.
4. The system of claim 3, wherein the probe further comprises a substrate on which the semiconductor die is mounted, the receptacle being sized to hold the substrate.
5. The system of claim 4, wherein the substrate is substantially identical to a substrate used in a flip-chip package for the device.
6. The system of claim 4, wherein the semiconductor die comprises contact pads to which respective probe tips are attached, and wire bonds electrically connect the contact pads to the substrate.
7. The system of claim 1, wherein the semiconductor die comprises:
terminals on a bottom surface of the semiconductor die; and
conductive vias that pass through the semiconductor die and provide electrical connections between the probe tips on a top surface of the die and the terminals on the bottom surface.

8. The system of claim 7, wherein the probe further comprises a substrate on which the semiconductor die is mounted, wherein the terminals of the semiconductor die directly contact the substrate.

9. The system of claim 8, further comprising a probe card, wherein terminals on the substrate directly contact the probe card.

10. The system of claim 1, further comprising a positioning system adapted to position the probe relative to the device so that the probe tips contact the terminals on the device.

11. A probe card for electrical testing of a device, comprising:
a first substrate adapted for mounting on test equipment;
a receptacle mounted on the first substrate; and
a probe in the receptacle, wherein the probe includes a semiconductor die having probe tips on a surface of the semiconductor die in a pattern that matches a pattern of terminals on the device.

12. The probe card of claim 11, wherein the probe comprises a second substrate to which the semiconductor die is attached.

13. A method for forming a probe for electrical testing of a semiconductor device, comprising:

forming probe tips on a semiconductor die in a pattern matching a pattern of terminals on the semiconductor device; and

fabricating an interconnect structure for electrical connection of the probe tips to test equipment.

14. The method of claim 13, wherein forming the probe tips comprises:
forming contact pads on the semiconductor die; and

forming conductive bumps on a surface of the contact pads.

15. The method of claim 13, wherein fabricating the interconnect structure comprises forming conductive traces on a surface of the semiconductor die on which the probe tips reside.

16. The method of claim 15, further comprising wire bonding the conductive traces to a substrate.

17. The method of claim 13, wherein fabricating the interconnect structure comprises forming conductive vias through the semiconductor die, the vias respectively being in electrical contact with the probe tips.